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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/089,530	08/19/2002	Daniel Charquet	12093/887	9258

26646 7590 06/23/2003

KENYON & KENYON
ONE BROADWAY
NEW YORK, NY 10004

EXAMINER

KEITH, JACK W

ART UNIT PAPER NUMBER

3641

DATE MAILED: 06/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
10/089,530

Applicant(s)
Charquet et al

Examiner
Jack Keith

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on May 6, 2003
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8-14 is/are pending in the application.
- 4a) Of the above, claim(s) 9-14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of:

- ☐ Certified copies of the priority documents have been received.
- ☐ Certified copies of the priority documents have been received in Application No. _____.
- ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 3

- ☐ Interview Summary (PTO-413) Paper No(s). _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other:

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DETAILED ACTION

Election/Restriction

1. Applicant's election with traverse of invention I in Paper No. 9 is acknowledged. The traversal is on the ground(s) that the special common technical feature is present in all the claimed embodiments. As set forth in Paper no. 8 the inventions listed above do not fall within the permitted combinations of different categories of inventions. That is applicant is entitled one invention under the permitted category of inventions under PCT Rule 13.2. The examiner has shown applicant to have multiple use of product and making of product inventions. This is not permitted under PCT Rules.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 9-14 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected inventions/species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 9.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior

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art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Van Swam et al (EP 0 533 073) in combination with Morel et al (4,717,427) and Rebeyrolle et al (5,832,050).

Van Swam (column 4, lines 7-11) discloses a zirconium alloy capable of meeting applicant's claimed inventive concept. A zirconium alloy containing: 0-3% niobium, 0-1.0% tin, 0-0.5% iron, 0-0.3 chromium, 0-0.3% nickel, 0.05-0.20% (500-2000 ppm) oxygen and the remainder to impurities. Note that as claimed vanadium is not required in applicant's invention. Accordingly, the ratio of niobium to iron, chromium and vanadium falls within the claimed limitation.

Van Swam (column 3, lines 40-55) further indicates the normal range of commercial reactor grade impurities of zirconium sponge for carbon as being 270 ppm or less and oxygen 900 ppm or less. It would appear that carbon would be inherently present in the end product alloy. Van Swam does not disclose a zirconium alloy including sulphur in the range of 5-35 ppm.

If not apparent that the carbon content of the zirconium alloy is inherent then Morel teaches the addition of carbon in the amount between 80 and 270 ppm in known zirconium alloys to improve mechanical properties (strength). See column 1, lines 12-22.

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In regard to the addition of sulfur Rebeyrolle teaches the addition of sulphur in the amount between 8 and 30 ppm in known zirconium alloys to improve corrosion resistance. See column 2, lines 32-42 and column 8, lines 10-13.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have include the zirconium alloy strength and corrosion resistance teachings of Morel and Rebeyrolle in the zirconium alloy of Van Swam as such results are no more than the utilization of known improvements in zirconium alloy compositions available within the nuclear reactor material art.

5. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Garde (WO 93/16205) in combination with Morel et al (4,717,427) and Rebeyrolle et al (5,832,050).

Garde (abstract) discloses a zirconium alloy capable of meeting applicant's claimed inventive concept. A zirconium alloy containing among other things: 0-1.0% niobium, 0-1.0% vanadium, 0-0.50% tin, 0.2-0.5% iron, 0.1-0.4 chromium, 0-2200 ppm) oxygen and the remainder to impurities. Accordingly, the ratio of niobium to iron, chromium and vanadium falls within the claimed limitation.

Garde does not disclose the addition of carbon or sulphur to the zirconium alloy.

Morel teaches the addition of carbon in the amount between 80 and 270 ppm in known zirconium alloys to improve mechanical properties (strength). See column 1, lines 12-22.

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Rebeyrolle teaches the addition of sulphur in the amount between 8 and 30 ppm in known zirconium alloys to improve corrosion resistance. See column 2, lines 32-42 and column 8, lines 10-13.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have include the zirconium alloy strength and corrosion resistance teachings of Morel and Rebeyrolle in the zirconium alloy of Garde as such results are in no more than the utilization of known improvements in zirconium alloy compositions available within the nuclear reactor material art.

Conclusion

6. The cited prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jack Keith whose telephone number is (703) 306-5752. The examiner can normally be reached on Monday through Friday from 7:00 to 4:00.

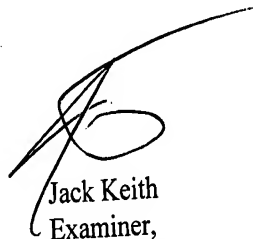
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Carone, can be reached on (703) 306-4198. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-7687.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

A handwritten signature in black ink, appearing to be 'Jack Keith', with a long, sweeping horizontal stroke extending to the right.

Jack Keith
Examiner,
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jwk

June 19, 2003